

BEFORE THE PUBLIC SERVICE COMMISSION OF SOUTH CAROLINA
COLUMBIA, SOUTH CAROLINA

HEARING #10-11092

FEBRUARY 24, 2010

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ALLOWABLE EX PARTE BRIEFING

*REQUESTED BY DUKE ENERGY CAROLINAS, LLC - Integrated Resource
Plan (IRP)*

**TRANSCRIPT OF
PROCEEDINGS**

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CHAIRMAN, John E. "Butch" HOWARD, *VICE CHAIRMAN*; and
COMMISSIONERS David A. WRIGHT, G. O'Neal HAMILTON, Swain E.
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Please note: PowerPoint presentation attached hereto.

P R O C E E D I N G S

CHAIRMAN FLEMING: Please be seated. This hearing will now come to order. Who represents Duke Energy Carolinas, LLC?

MR. ELLERBE: Madam Chairman, Frank Ellerbe, representing Duke Energy this morning, and Lara Nichols, of the North Carolina bar, who has been admitted pro hac vice for purposes of this briefing this morning.

CHAIRMAN FLEMING: Thank you.

MS. NICHOLS: Good morning.

CHAIRMAN FLEMING: Happy to have you here.

MR. ELLERBE: And Ms. Nichols will introduce the panel of folks who will be making the presentation.

CHAIRMAN FLEMING: All right. And who represents the Office of Regulatory Staff?

MR. NELSON: Good morning, Madam Chairman and Commissioners. Jeff Nelson, representing the Office of Regulatory Staff.

CHAIRMAN FLEMING: Happy to have you here, as well. At this time, I'm going to ask Attorney Joseph Melchers for the reading of the docket.

MR. MELCHERS: Thank you, Madam Chairman and members of the Commission. This matter comes

1 before the Commission by way of Docket No. 2009-10-
2 E, regarding Duke Energy Carolinas, LLC's
3 Integrated Resource Plan.

4 Please take notice that an allowable ex parte
5 presentation on the matter has been scheduled to
6 begin at 10:30 a.m. on Wednesday, February 24,
7 2010, before the Commission in the Commission's
8 hearing room, at 101 Executive Center Drive, Saluda
9 Building, Columbia, South Carolina. Madam Chairman
10 and members of the Commission, the docket is in
11 order.

12 **CHAIRMAN FLEMING:** Thank you. Ms. Nichols, if
13 you would introduce the panel for us.

14 **MS. NICHOLS:** Thank you, very much. Good
15 morning.

16 **CHAIRMAN FLEMING:** Good morning.

17 **MS. NICHOLS:** I'm here on behalf of Duke
18 Energy Carolinas, and we are very excited to be
19 here, and appreciate the opportunity to discuss
20 with you our integrated resource planning process
21 and the results of our 2009 IRP.

22 Duke Energy is proud of its long history of
23 providing reliable electric service at affordable
24 rates to its customers in South Carolina. Our IRP
25 process is a key tool in continuing that

1 commitment.

2 You will hear from our speakers today about
3 the quantitative analysis and the qualitative
4 concerns and considerations that are used in our
5 planning process. The perspectives that these
6 analyses bring enable us to plan our near-term and
7 long-term -- plan for our near-term and long-term
8 customer needs, while maintaining flexibility to
9 adjust our plans to the evolving economic,
10 environmental, and operating circumstances that our
11 company faces in the future.

12 The environment for these planning activities
13 continues to be the most dynamic in Duke Energy
14 Carolinas' 100-year-plus history. Thus, our
15 resource plan must be robust under many possible
16 future scenarios, and it's important that we
17 maintain a number of options to respond to the many
18 potential outcomes of major planning uncertainties
19 that our speakers will address today.

20 So with me today are: Bobby McMurry, who is a
21 director in our Resource Planning area; he's
22 responsible for the IRPs -- for the IRP for Duke
23 Energy Carolinas. To his right is Jim Riddle, who
24 is responsible for load forecasting and will speak
25 to you about how we go through that process that

1 feeds into the IRP. Mr. Riddle is a part of Dick
2 Stevie's group in customer analytics, and Dr.
3 Stevie was with you fairly recently talking about
4 our energy efficiency programs and recovery
5 methodology, and he will speak today about how
6 energy efficiency is incorporated into the IRP.
7 And then on his right is Jarred Lawrence, who is
8 with the Office of Nuclear Development, and Mr.
9 Lawrence is here today and available to answer any
10 questions you all may have about Lee Nuclear and
11 our plans in that area.

12 So we look forward to presenting the process
13 and results for our 2009 IRP, and answering any
14 questions that you have, and having a very
15 interactive conversation with you this morning.
16 Thank you.

17 **CHAIRMAN FLEMING:** Thank you.

18 **MR. McMURRY:** Just to kind of pick up where
19 Lara left off, working in the resource planning
20 area for the past couple of years, it's a very
21 challenging time. I think you hopefully got that
22 from Lara's introduction. And in planning for the
23 future for our customers, is probably more --
24 there's more uncertainty than ever before. I mean,
25 some examples of that would be our load forecast,

1 for example. You know, what's the recessionary
2 impacts? Is it a short -- is it to be a quick
3 rebound, or are we going to see this impact
4 forever? From an energy efficiency and renewables
5 perspective, we have assumptions in our IRP of some
6 portion of that being included in our IRP, but is
7 it enough, or is it too much? You know, what is
8 the appropriate degree of market penetration of
9 renewables and energy efficiency? Environmental
10 impacts: I've worked in the environmental area for
11 a long time for Duke Energy, and it's more
12 uncertainty today than I've ever seen in my career.
13 And also the environmental impacts that may impact
14 -- you know, what impacts it has on our retirements
15 of, especially, our unscrubbed coal fleet.

16 Looking back the past several years, you can
17 look at fuel prices of natural gas, you know,
18 varying anywhere between \$14 per million BTUs to \$3
19 a million BTUs. It's just -- the price volatility
20 of natural gas -- and coal, I've seen it vary
21 between \$30 a ton to \$150 a ton. And taking all
22 this price volatility with what to plan for in the
23 future is, you know, unprecedented.

24 And last, and certainly not least, is what
25 will a carbon-constrained future look like? Will

1 it come from legislative measures, or will it come
2 from a regulatory -- from EPA -- from a regulatory
3 standpoint?

4 That's all the types of things we have to
5 consider in developing our IRP. And in picking up
6 on where Lara left off is, you know, it's key to
7 have a balanced but flexible plan, moving forward.
8 And hopefully what I present today will show that
9 the 2009 IRP will meet these criteria.

10 Moving forward. Let's see here.

11 [Ref: PowerPoint Page 2]

12 I think Lara has covered this. At a very high
13 level, you know, the objective of resource planning
14 is to ensure that the company will reliably and
15 economically meet the electric needs of its
16 customers well into the future. That's at a very
17 high level, and I think as you go through this
18 presentation today, you'll see how we develop a
19 plan that achieves this goal.

20 [Ref: PowerPoint Page 3]

21 What we'll be covering, from an agenda
22 perspective, is, first, we'll start with the IRP
23 planning process. It's just at a somewhat higher
24 level, how is the plan developed? It's not the
25 details of the plan, but is the process that we go

1 through to develop our plan. Then we'll move on to
2 how is the load forecast developed, and then kind
3 of give you an overview of how it's changed over
4 the past couple of years.

5 From energy efficiency, Dr. Stevie will
6 address that and how this is developed into the
7 Integrated Resource Plan. And environmental
8 impacts, there are so many things that's changed in
9 that area that would have impacts on our existing
10 system. And then that will flow right into what
11 are our retirements that we've announced. And in
12 2009, we announced some additional retirements we
13 previously hadn't ever announced before.

14 Then we'll move to the analysis, and the
15 analysis is basically our short-term and long-term
16 plan from the resource plan. Then we have a
17 resource summary that will summarize what resources
18 we are recommending in 2009. And from there, we
19 have a summary statement.

20 From there, we'll move along.

21 [Ref: PowerPoint Page 4]

22 We start the integrated resource planning
23 process with a set of inputs. We start with -- we
24 obtain our demand and energy forecasts for at least
25 15 years. Actually, we plan for 20 years. Our

1 planning horizon is 2029. We also set our reserve
2 margin. Our targeted planning reserve margin in
3 2009 was 17 percent. This has been proven adequate
4 for the Duke system, and over the past five years
5 the actual reserve has dropped to 2 percent of our
6 total requirement. You know, what does that 2
7 percent represent? That was during periods of
8 extreme weather. We had some forced outages. And
9 that's just demonstrating the need for a 17 percent
10 reserve margin. Every utility's system is unique,
11 and Duke's system is unique from a -- we have some
12 very large units. We have Belews Creek that's two
13 1,100-megawatt units. We have Maguire, Catawba;
14 they both have two 1,100-megawatt units. Marshall
15 Steam Station has two units that are 800 megawatts
16 each, and Oconee Nuclear Station also has three
17 units of approximately 800 megawatts each.

18 You know, if you lose any one of those units
19 during a period of extreme weather, that can have
20 an impact to your reserve margin of 5 percent,
21 alone. So, you have a compounding effect there.
22 And in looking forward, we will be reviewing this
23 reserve margin more closely looking forward.

24 You know, we've got a lot of uncertainty going
25 forward, from a renewable energy standpoint. How

1 reliable are these resources? Can we count on them
2 from a capacity standpoint? From an energy
3 efficiency standpoint, you know, what is the
4 adoption rate? Are we achieving the adoption rate
5 that we anticipated? Or once adopted, are we
6 really seeing the benefits that we thought we were
7 going to receive? That's just a couple of examples
8 of the certainty going forward.

9 Then move on to another set of inputs, the
10 supply- and demand-side resources. We look at our
11 supply-side resources which are basically your
12 coal, gas, nuclear, renewables. And then on demand
13 side, it would be demand response and energy
14 efficiency measures.

15 Then another set of inputs that we update
16 annually with our company is our fundamental fuel
17 forecast of coal, gas, and oil. And they also give
18 us a range of where we think we should vary these
19 in our sensitivity analysis.

20 [Ref: PowerPoint Page 5]

21 Once we have our inputs established, we move
22 to a high-level screening. And, you know, first we
23 try to narrow down the number of resources to be
24 considered. And the first question we've got to
25 ask is, of all the resources, supply-side

1 resources, that we have to consider, are they
2 technically feasible? And so we do a screening of
3 technically feasible, and then we look at cost
4 outliers. If something costs three times more and
5 it's not technically feasible, we'll screen those
6 out to look at for further consideration.

7 The next step in the high-level screening
8 process is we use a screening model to develop
9 scenarios for future development, portfolio
10 development. You know, we look at types -- in this
11 screening model, it's a computer model, and
12 basically it considers the -- recommends the types
13 of resources and the timing of when those resources
14 would be required. It's not an hourly model, it's
15 a screening model, but it gives you a good
16 indication of what you should be considering
17 looking for.

18 From there we move to a detailed modeling
19 evaluation. There again, it's an hourly computer
20 model which we estimate for 20 years with this
21 model. And from the screening model, we've had
22 several portfolios that we have developed, and we
23 will look at each of those portfolios in depth,
24 varying fuel prices, environmental risks, carbon
25 policies, forecasted load, capital cost variation,

1 and we will see how each portfolio performs under
2 all these sensitivities.

3 So we have our quantitative analysis
4 performed; we can compare the cost of each
5 portfolio and what the cost impact is to our
6 customers, but then we also look at each portfolio
7 from a qualitative perspective. To give you an
8 example of some qualitative information that we
9 look at, is, what is the diversity of the
10 portfolio? Remember, we've keyed on that word
11 "balance." What is the environmental profile?
12 What do the CO₂, NO_x, and SO_x emissions look like?

13 We look at the technology development. You
14 know, are we depending on something that's to be
15 developed in the future, or are these proven
16 technologies that each portfolio represents? And
17 last is, we look at a reasonable economic impact.
18 You know, is this good for the State of North and
19 South Carolina?

20 From there, we hopefully have developed an
21 optimal resource mix that performs well under a
22 wide range of circumstances, is environmentally
23 sound, in management judgment.

24 Before we move on to the forecasting area, if
25 there any questions I'll be glad to try to answer

1 them.

2 **CHAIRMAN FLEMING:** Commissioners, are there
3 questions?

4 **COMMISSIONER MITCHELL:** I have one.

5 **CHAIRMAN FLEMING:** Okay, Commissioner
6 Mitchell.

7 **COMMISSIONER MITCHELL:** Thank you. Glad to
8 have you all with us today. Thank you, Madam
9 Chairman.

10 You were talking about reserve margin and
11 capacity margin. I guess what I'd like for you --
12 if you could be explicit and tell me the practical
13 difference between your reserve margin and capacity
14 margin, and how Duke uses each factor. How do they
15 factor in? You mentioned each one, I think,
16 briefly there.

17 **MR. McMURRY:** Well, I hope I didn't mention
18 capacity margin, but if I did I can certainly try
19 to address this question.

20 **COMMISSIONER MITCHELL:** Well, you did go on
21 reserve margin, so -- I believe you talked about
22 reserve margin.

23 **MR. McMURRY:** Um --

24 **COMMISSIONER MITCHELL:** You can tell me half
25 of it anyway.

1 **MR. McMURRY:** Okay. I'll certainly try. We
2 plan our resources, such as coal, gas, nuclear,
3 hydro, and demand-side management, to meet a
4 normalized projected load. That is average
5 weather. And the reserve margin is basically a
6 safety margin to account for extreme weathers and
7 for unexpected availability of resources. That
8 would be like a forced outage of one of our major
9 units. And that's basically how -- you know, in
10 very simple terms, that is how we look at our
11 reserve margin for our system.

12 **COMMISSIONER MITCHELL:** And has that changed
13 year-to-year, your reserve margin, as it was last
14 year and as it might be now? And what factors
15 might cause that to change?

16 **MR. McMURRY:** For the past five years, it is
17 -- looking back at the reserve margins, it's been
18 17 percent. So our reserve margin really hasn't
19 changed over the past five years. And the example
20 I gave that we always look -- when we update our
21 IRP every year, we look and see, due to extreme
22 weather or forced outages, how far did our actual
23 reserves drop? And like I said, in the past five
24 years, our actual reserves have dropped to 2
25 percent, so it makes us pretty darn glad that we

1 had our 17 percent reserve margin.

2 And trying to address -- you know, going
3 forward -- and I hit on this a little bit when I
4 was going through the slides -- you know, we have
5 increased uncertainty going forward, you know.
6 From a renewable standpoint, we really don't know
7 what the historical forced outage rate of a biomass
8 burner is, or a wind turbine, or solar panels. The
9 same thing from an energy efficiency perspective.
10 We've never implemented this much energy efficiency
11 or demand response and, you know, how reliable is
12 this really going to be? So this is something
13 we'll be taking a close look at over the next
14 several years.

15 **COMMISSIONER MITCHELL:** And I guess it'll
16 still be more or less an average yearly evaluation,
17 or you think maybe in the future, as things are
18 changing faster, it might even be more regular than
19 that?

20 **MR. McMURRY:** I guess anything is possible,
21 but right now, you know, we update our IRP on a
22 yearly basis, and I think it's a pretty good
23 measure. I think, if we really take a close look
24 at it every year, that we can position ourselves to
25 adjust reserve margins if needed.

1 **COMMISSIONER MITCHELL:** Thank you. Thank you,
2 Madam Chairman.

3 **CHAIRMAN FLEMING:** Yes, Commissioner
4 Whitfield.

5 **COMMISSIONER WHITFIELD:** Thank you, Madam
6 Chairman. Let's kind of follow up on Commissioner
7 Mitchell a little bit, if I could. You mention in
8 your IRP that this is the most dynamic environment
9 for planning in the company's system in its 100-
10 plus-year history. Could you briefly touch on some
11 of the factors that are making it so dynamic?

12 **MR. McMURRY:** Sure. Some of the areas that I
13 went over initially was the recession, you know,
14 the recession that we're just coming out of right
15 now is the worst -- I can look to some of my load
16 forecasters, but it's the worst since the early
17 '80s. You know, how quickly do we respond to this?
18 Is it a quick rebound like some of the other
19 economic downturns we've had in the past, or is
20 this sustained over a long period of time? The
21 environmental areas, you know -- and I've got some
22 slides I'll address a little bit later, you know,
23 but would it be coal resources especially, or
24 impacted by mercury regulations? More stringent
25 NOx and SOx regulations? More stringent ozone

1 regulations? And all of these put pressure on our
2 existing coal fleet that we have.

3 Some of the other things -- let's see -- fuel
4 price volatility. I remember back in the '90s when
5 I worked in the Fossil/Hydro Department, we would
6 do a three-month study, if coal prices changed \$5 a
7 ton. Coal prices could change \$25 a ton overnight,
8 in the past several years. That's what I mean by
9 it's one of the most dynamic times in our company's
10 history.

11 Some other examples, we've never implemented
12 or proposed to implement energy efficiency measures
13 to the degree that we're currently doing. And, you
14 know, renewable energy is also a new area that
15 we're looking into the future. So does that give
16 you an overview of the types of things that we
17 think it's probably one of the most dynamic times?

18 **COMMISSIONER WHITFIELD:** And possible
19 transmission upgrades, too.

20 **MR. McMURRY:** Absolutely. And I've got a
21 couple of slides at the back of the slide deck that
22 kind of touches on -- you know, there are multiple
23 studies going on from a transmission perspective.
24 You know, as we bring in this renewable generation,
25 this variable energy resource -- you know, you can

1 take, for example, wind, or Midwest wind. How do
2 you get it to our system? And not only what are
3 the impacts of how to get it here; how is our
4 system going to react to something that's that
5 variable? You can look at average annual or
6 average monthly load profiles from this wind
7 resource, but what happens when the wind doesn't
8 blow? Do you have enough -- is your system
9 designed to account for that?

10 **COMMISSIONER WHITFIELD:** Thank you, Mr.
11 McMurry. I've got one little follow-up, and you
12 may touch on this later in your presentation. But
13 how do you accurately allow for these unknowns in
14 your planning process, with all these unknowns we
15 just -- I guess you may get to that later in the
16 presentation here, but --

17 **MR. McMURRY:** Right. Well, we run multiple
18 sensitivities. And, you know, I think I've
19 addressed a lot of them, but -- and we see how --
20 and we analyze multiple portfolios. And we see how
21 each one of them reacts to each portfolio. And
22 really, you know, even if it's not the lowest
23 absolute present-value revenue requirements to our
24 customers, you know, lowest cost to customers, but
25 if it performs well over a range of sensitivities,

1 that's a very important measure of which we go
2 forward with.

3 **COMMISSIONER WHITFIELD:** Thank you. That's
4 all I have at this time, Madam Chairman.

5 **CHAIRMAN FLEMING:** Okay. If you would
6 continue.

7 **MR. McMURRY:** With that, we're going to move
8 on to the load forecasting area.

9 [Ref: PowerPoint Page 6]

10 **MR. RIDDLE:** Okay. This slide provides an
11 overview of the data sources, as well as the
12 primary methodology that Duke uses to produce its
13 load forecast. So when we think of forecasting
14 energy and energy growth in the future, we
15 basically look at three main components, that being
16 the price of electricity, some measure of economic
17 activity, and then, of course, weather. Those
18 three things are the primary drivers of energy
19 usage and energy growth in the future. Some of the
20 economic drivers we look at, and I list on there,
21 are things like population growth, income growth,
22 and employment, industrial production or industrial
23 output. And then we feed that historical data into
24 a set of models, which allow us to mathematically
25 assess the impact of each one of those variables on

1 past energy usage, and give a forecast, then, of
2 those economic drivers, those price drivers, those
3 weather drivers. We can translate that into
4 kilowatt-hour sales across the major customer
5 classes that Duke serves.

6 So, you know, it's a process we've been using
7 for several years. It's well established within
8 the utility industry. And quite honestly, it does
9 a pretty good job of forecasting kilowatt-hours and
10 peak demand, as well.

11 I also mentioned that, in this process, we do
12 incorporate, to the extent possible, energy
13 efficiency standards brought about by federal
14 changes in law. We've also included in this
15 forecast for the IRP the potential impact of
16 electric vehicles, and then, as Dick will speak to,
17 we've also incorporated the impacts of the energy
18 efficiency programs that we are proposing and
19 implementing in the Carolinas.

20 [Ref: PowerPoint Page 7]

21 This next chart, just to give you an idea by
22 class, total retail load growth projected in this
23 IRP, an increase on average of 1 percent per year
24 through 2029. As you can see, residential and
25 general service, or commercial, provide -- those

1 are the two areas behind that growth because of the
2 impacts we've seen on industrial, mainly textiles,
3 has been declining for several years, and we
4 anticipate that that will continue. Industrial
5 non-textile is flat over the long-term period as we
6 look forward.

7 Along with the retail load, we are, though,
8 actively seeking wholesale opportunities within our
9 balancing authority area. In the revised 2009 IRP,
10 we have included megawatt-hours for the deal we
11 signed with Central Cooperative. And by 2021,
12 there's approximately 2,300 megawatts of wholesale
13 load under contract. We've also included an
14 additional 750 megawatts -- these are wholesale
15 load contracts that we expect to sign sometime
16 between now and 2021. And then those resources --
17 or, these wholesale customers do bring some
18 additional resources of their own to the mix, which
19 we include in the IRP process, of approximately 700
20 megawatts.

21 And as Bobby did before, I'll stop here and
22 address any questions you may have about the
23 forecast or the methodology we use to produce it.

24 **CHAIRMAN FLEMING:** Unless there's just a
25 burning question on a Commissioner's mind, we may

1 want to get the total picture before we start
2 asking.

3 **MR. RIDDLE:** Okay, great.

4 [Ref: PowerPoint Page 8]

5 **MR. McMURRY:** When you look at our projected
6 load -- when you look at our projected load of what
7 it is and the recessionary impacts, you kind of
8 sometimes lose sight that there are investments
9 being made in South Carolina, both on existing
10 industry and new industry. This is a map from the
11 South Carolina Commerce Department, and just wanted
12 to highlight, you know, Duke is involved in trying
13 to continue development of industrial growth in
14 South Carolina. We're trying to do this through
15 active participation in industrial, and through
16 boards and industrial and commercial development,
17 through, you know, participation in board and
18 organizations. Some examples of that would be like
19 the Advance South Carolina Board -- someone's on
20 the board of directors there. Export Consortium,
21 Chester Development Association. There's probably
22 12 of these types of boards that we're members of,
23 within Duke Energy.

24 We are also coming up with some programs to
25 try to promote industrial growth in South Carolina

1 -- North and South Carolina -- and a couple of
2 examples of that is our Site Readiness program.
3 You know, basically, it creates siting
4 opportunities for Duke-served customers. We look
5 at types of industry that may come in and we try to
6 create siting opportunities. And I've just got a
7 few stats here from our economic development group.
8 You know, since 2005 when this program began, we've
9 analyzed 24 sites in South Carolina.

10 Something that we just recently rolled out at
11 the end of 2009 is something that's called
12 Electricity 101 Tutorial. Basically, it's to
13 educate new employees within an industry with
14 regards to utility industry. You know, try to
15 educate their employees. And, you know, once we
16 think they have this education, it provides them
17 with knowledge needed in making informed, you know,
18 siting decisions in the future. Actually, I've got
19 a website here I probably should have included on
20 the slide, but it's something that will be
21 available through the Duke Energy website in the
22 future.

23 Moving on from there, so we have Duke's
24 involvement, we have programs we are rolling out.
25 And targeted areas for 2010, as you can see some

1 examples -- I won't read every one of them -- would
2 be the automotive, life sciences, processed food
3 and beverage, to data centers and server farms.
4 There's a whole list of these that we're targeting
5 for 2010. And I think the important point to make
6 with these industries, even though we do have a
7 decline in textiles, we are supporting industries
8 that are sustainable, and it will have a ripple
9 effect throughout the economy. It's not only that
10 we serve a load of this particular industry, but
11 there will also be supporting industry that would
12 also be good for the economic development of South
13 Carolina.

14 With that, I've got one more load slide.

15 [Ref: PowerPoint Page 9]

16 And I find this slide interesting. Hopefully
17 you all will, too. But it's a comparison of the
18 2008 forecast through the 2009 forecast. And we --
19 by year and by peak load impact. And we have two
20 looks at the 2008 forecast. In 2008, we didn't
21 really have a proposed -- we had draft legislation
22 but it hadn't really developed at that point, so we
23 looked at a no-carbon load forecast and what does a
24 load forecast look like if you have a carbon
25 impact. That was the Lieberman-Warner legislation.

1 I don't know if you all are familiar with that
2 legislation.

3 And so the blue line is the 2008 load forecast
4 without carbon impacts, and the red line shows what
5 the impact is if you included the impacts of
6 carbon. The next line on this chart is the 2009
7 load forecast. It includes the impacts of a
8 Dingell-Boucher, Waxman-Markey type legislation
9 that's been, you know, draft legislation last fall
10 to proposed legislation under the Waxman-Markey
11 that's being debated today. And as you can see
12 there, the green line, it rises higher than
13 certainly the 2008 forecast that included the
14 carbon impacts.

15 Several points to make about this, is, first
16 of all, if you look in the 2009 to, say, '15
17 timeframe, you see how much lower the green line,
18 the '09 forecast, is than either the 2008 load
19 forecast -- and that is really showing you the
20 recessionary impacts of what it had on our load
21 forecast as we are looking out to the future.

22 And then the second point I want to make is --
23 that's the recessionary impacts. The second point
24 I want to make is, you know, I asked the question
25 why is the load so much lower in the 2008 load

1 forecast when you incorporated carbon, versus the
2 '09? And the big reason for this is how carbon is
3 addressed in each scenario. In the 2008 load
4 forecast it was assumed that no allowance
5 allocation was given to meet that -- you know, meet
6 your goals from a carbon standpoint. In other
7 words, every ton of carbon that you emit had a
8 direct response to your customers' bill. Even
9 though you were meeting the reduction target in the
10 bill, you know, of, say, 10 percent reduction by
11 2020 -- you're meeting that -- you still had to pay
12 for every ton you emitted. As compared to 2009
13 load forecast, there was an allowance in the
14 Dingell-Boucher draft legislation and in the
15 Waxman-Markey legislation that you would be
16 allocated allowances up to the goal reduction rate.
17 It's about 85 percent of that goal. So the price
18 impact was much less due to carbon in 2009 than it
19 was in 2008.

20 When you see these types of reductions, that's
21 more than just people using less electricity. If
22 you don't have allowance allocation, that could be
23 industry leaving your state. So it's a -- you
24 know, you don't see this amount of load reductions
25 just from being a little bit more efficient.

1 As you can see on the green line, it actually
2 goes above the 2008 load forecast, you know,
3 without carbon impacts. And the major driver for
4 that is we -- like Jim said -- we are actively
5 seeking wholesale customers, and a large portion of
6 that is the signing of the Central deal that we
7 just signed recently.

8 That's really the points I wanted to make
9 here, is just -- but I wanted to make the point of
10 how important allowance -- in any draft or proposed
11 legislation going forward, how important the
12 allowance allocation issue is to Duke Energy.

13 With that, we'll move to Dr. Dr. Stevie.

14 [Ref: PowerPoint Page 10]

15 **DR. STEVIE:** Thank you, Bobby. I hope you can
16 all hear me. I'm going to spend a little time
17 talking about the energy efficiency programs, and
18 as I'm sure you --

19 **CHAIRMAN FLEMING:** Could you pull the
20 microphone up a little closer? I think the people
21 in the back are having a hard time hearing.

22 **DR. STEVIE:** Maybe I'll try this one
23 [indicating].

24 **MR. LAWRENCE:** That's not going to work.

25 **DR. STEVIE:** All right. How's that?

1 **CHAIRMAN FLEMING:** Can you all hear in the
2 back? I think that's the concern. We can hear
3 you, but they're having problems.

4 **DR. STEVIE:** I'll try that [indicating].
5 There we go. Thank you. I guess I was in an
6 unfortunate position here at the table, relative to
7 the microphones.

8 Anyway, as I'm sure you recall, we had
9 received approval to implement the portfolio of
10 energy efficiency programs back in early 2009.
11 Those were -- the implementation of those programs
12 started up in June of 2009. And just to summarize
13 what those are, we have several residential and
14 non-residential programs. The first four of them
15 under the residential: Residential Energy
16 Assessments, Smart \$aver, Low Income Services, and
17 the school program; those are all energy
18 conservation programs. The Power Manager program
19 is more for direct load control of air
20 conditioners, a demand-response program where we
21 cycle air conditioners and, if need be on a very,
22 very hot day when we really need it, it could be
23 pushed into emergency mode. We also have, on the
24 non-residential side, as far as energy conservation
25 programs, we have the Non-residential Energy

1 Assessments and the Smart \$aver for Non-residential
2 Customers; and a demand-response program called
3 Power Share.

4 So out of this mix, we have two demand-
5 response programs, Power Manager and Power Share,
6 and the rest are all conservation focused. I will
7 mention that we do expect that, as time moves on,
8 we'll be revising this portfolio of programs and
9 bringing forth additional programs, and those
10 would, of course, come to the Commission in terms
11 of seeking approval to implement those as those are
12 developed.

13 [Ref: PowerPoint Page 11]

14 As far as how these programs are incorporated
15 into the integrated resource planning process, we
16 really looked at this in two ways: a base case and
17 a high case. And in the base case, we took the
18 programs that were proposed to the Commission and
19 subsequently approved, and those were projected out
20 to have impacts for four years. And of course, we
21 are looking at a 20-year-plus planning cycle with
22 the IRP. And what we did then is keep that first
23 set of programs that goes out four years, and
24 essentially tripled it, put in additional energy
25 efficiency impacts, two more sets of them

1 equivalent to that first set of impacts from the
2 programs. And that's what you see on this graph
3 going from the period 2013 to 2021. That first set
4 would end in 2013 and then we stack an additional
5 set up that would take us out to 2017, and then a
6 third set that would take us out to 2021. That's
7 what was used in the base case.

8 For the high case, we incorporated -- we did
9 something a little different. We did use the same
10 approach for the first bundle of programs, but then
11 once we got to 2015, we said, "For this high case,
12 let's look at what would happen if we were to
13 reduce sales by 1 percent per year until we reach a
14 market potential for energy efficiency," and that
15 really represents the high case.

16 We are committed to pursuing all cost-
17 effective energy efficiency programs. I will say
18 that the success of this depends not just on the
19 marketing activities of the company, but also how
20 acceptable these programs are to customers, how
21 fast do they adopt and implement the measures?

22 So I think with that, I turn this back over to
23 Bobby.

24 **MR. McMURRY:** We're moving into -- if you want
25 to wait and ask questions at the end, that's fine.

1 But we're moving into a little different area. If
2 there are any questions, I'll be glad to -- on the
3 load forecasting? Okay.

4 [Ref: PowerPoint Page 12]

5 As we look at the environmental impacts --

6 **CHAIRMAN FLEMING:** Could you pull the
7 microphone a little closer to you, too?

8 **MR. McMURRY:** Yes [indicating].

9 **CHAIRMAN FLEMING:** We've gotten feedback
10 they're having a hard time hearing.

11 **MR. McMURRY:** As you look at the environmental
12 impacts and the changes we're currently having,
13 kind of building on what I've said before, is, if
14 you look at the mercury requirements -- I want to
15 see if you see a pattern that's going on here as I
16 go through these environmental impacts. Up till
17 2008, we thought we were planning to a Clean Air
18 mercury rule. It was a cap-and-trade program for
19 mercury. Duke was well positioned. We'd already
20 started installing mercury monitors and looking at
21 what the co-benefits were, from all over the -- you
22 know, the controls that we had installed, and we
23 were developing a strategy for that. In 2008, the
24 Clean Air mercury rule was overturned and now they
25 have a command-and-control that requires us to put

1 unit-by-unit controls on each unit, of about -- and
2 we're anticipating approximately 90 percent by
3 2015, so this dramatically changes your planning
4 process going forward. Where you thought you might
5 could get 60 percent control from an unscrubbed
6 unit and get 95 percent control from a controlled
7 unit and, you know, you would average out to a
8 significant reduction, this changed the ball game
9 from a mercury planning process.

10 One of the next major planning --
11 environmental planning regulations we were looking
12 at was the Clean Air interstate rule. Up until
13 2008, we were planning for a Clean Air interstate
14 rule which further reduced the NOx emissions and
15 SOx emissions from the 1990 Clean Air Act
16 amendments. It set lower -- it basically cut the
17 SO₂ emissions by 50 percent and the NOx emissions by
18 approximately 40 percent. And we were well on our
19 way to meeting this, to start in 2010. But in
20 2008, that was overturned. So we had a period of
21 time in which there was no -- we'd installed all of
22 these controls, we'd made all these plans to meet
23 the 2010 deadline, and it was overturned. Now we
24 understand that they've reinstituted the Clean Air
25 interstate rule, but they're going to have a

1 replacement rule. And, you know, if legislation is
2 passed, that could require additional impacts to us
3 as early as 2012, or if they just have a
4 replacement rule, more severe requirements could
5 start in the 2015 timeframe.

6 The new ozone standard. Back in the early
7 '90s right after the passage of the Clean Air Act
8 amendments, we developed an attainment strategy.
9 We worked with the states and saw what their need
10 was from utilities, and we developed an attainment
11 strategy to meet the then-one-hour ozone standard.
12 It's the -- you hear about the ozone standard;
13 that's the smog standard, the smog alerts that you
14 have during the summertime. You know, that's what
15 the ozone standard is. Then in 1998, they decided
16 that did not protect, you know, the public, and so
17 they lowered the standard. So in 1998, the
18 standard was lowered and we had a new planning
19 process, and that really started making us want to
20 put on advanced NOx controls across the Duke
21 system. So we were planning to that standard, and
22 not all areas had met that standard, but in 2008,
23 under the Bush administration -- or, 2007, under
24 the Bush administration, they reduced the standard
25 again. So it went from -- essentially, don't

1 concentrate on the units, but it went from 95 in
2 the early '90s to 85 by the 2000 timeframe, to 75
3 in the 2008 timeframe, so we're always chasing this
4 target that's always getting lowered. And so once
5 we've kind of started getting our hands around this
6 new standard proposed during the Bush
7 administration, when we had a new administration
8 coming in, a new EPA, they said, "That standard is
9 not low enough. We're going to stay that standard,
10 and we're going to announce a standard that's even
11 lower." Well, if you're in an environmental
12 compliance strategy role, you're always chasing
13 something different when it comes to an EPA
14 regulatory standpoint.

15 And something that's gotten a lot of press
16 lately is the coal combustion byproducts. You
17 know, the designation of fly ash as a hazardous
18 waste and what that could mean to us. You know,
19 two -- three immediate impacts it could have is it
20 could impact our fly ash sales. We currently sell
21 about a half-million tons of fly ash a year. It
22 could -- depending on the ruling of that, it could
23 eliminate those. It could also eliminate our
24 gypsum sales that we had. You know, we spent a lot
25 of money on our scru- -- when we were implementing

1 our scrubbers, our SO₂ scrubbers, across our system,
2 and to sell that, to make a salable byproduct,
3 gypsum for wallboard manufacture. And the wrong
4 designation of coal combustion byproducts could
5 make us where we couldn't sell it; we'd have to
6 start putting it in a landfill rather than having a
7 beneficial use.

8 And last but not least is, it can really,
9 depending on how this is ruled -- and it's supposed
10 to be ruled in the next several months -- it could
11 really limit what types of things we can put in our
12 ash basin. You know, can you put fly ash in your
13 ash basin? If you can't, then you would need to
14 landfill any fly ash that you're not selling. To,
15 under extreme circumstance, we could be asked to
16 close our ash basins, our ash ponds.

17 And there was some question whether I should
18 have included an ash pond in my presentation, but I
19 like the picture.

20 [Laughter]

21 I think it's a pretty pond. And it's -- but
22 just a couple of points I'd like to make with that
23 is, these ponds are well maintained, and they are
24 inspected every year. And as you can see, it
25 almost -- it provides a wildlife habitat.

1 But with that, that's some of the major recent
2 activities we have going on in the environmental
3 area.

4 [Ref: PowerPoint Page 13]

5 And as you can tell, if you don't already have
6 controls on a major plant, going forward, this
7 really puts additional pressure on any, especially,
8 coal unit that doesn't have environmental controls,
9 to either control or retire. And with all of these
10 significant requirements from an environmental
11 perspective, it's really saying that we are going
12 to retire a lot of the remaining unscrubbed coal on
13 our system.

14 I'll just start at the top and work my way
15 down. As a part of the Cliffside 6 agreement that
16 we would retire some unscrubbed coal units, we
17 agreed to retire -- let's start at the top with the
18 red dots -- Dan River; two of the dots at Buck, the
19 next circle down; Riverbend Steam Station, which is
20 near Charlotte; and four units at Cliffside. That
21 all totaled about 1,050 megawatts. So that was a
22 commitment we made when we moved forward with
23 Cliffside Unit 6, the new coal unit.

24 One of the next things that we've looked at
25 recently is, we've accelerated retirement of our

1 old-fleet CTs. What an old-fleet CT means is, this
2 is a '69-to-'71 vintage unit. And we test these
3 periodically to make sure that they are reliable,
4 but what we've been finding recently is they're not
5 as reliable as they once were, and we're finding
6 that parts are hard to find. So we continue to
7 test these and to make sure that the units that we
8 have are reliable, but we moved the retirements of
9 the old-fleet CTs -- that's about 500 megawatts'
10 worth -- from the '14-'15 timeframe to 2012. And
11 you can see that with the yellow dots. Around the
12 circle, we have some at Dan River, we have some at
13 Buck, we have some at Riverbend, and we have some
14 at Buzzards Roost in South Carolina. Actually,
15 that's a lot. But it's old, old-fleet CTs in that
16 '69-to-'71 vintage timeframe.

17 Let's see. We also included for the first
18 time in our IRP retirement of the remaining
19 unscrubbed units. And in -- as a placeholder, we
20 put those in 2020. For long-term planning
21 purposes, we wanted to show that those units wasn't
22 available. But I think you can tell from the
23 earlier slide that, you know, 2020 might be too far
24 out, that those retirements could be accelerated to
25 the 2015 timeframe.

1 And the remaining unscrubbed units are Buck 5
2 and 6, as you can see with the second circle coming
3 down, and Lee Steam Station in Anderson County,
4 South Carolina. That is three units at Lee,
5 totaling 370 megawatts. And we show these as
6 retirements, but we may have options at Lee Steam
7 Station, other than retirement, such as conversion
8 to natural gas. We don't want to leave that off
9 the table. Actually, these units at Lee were
10 designed to burn natural gas, and we fired those on
11 natural gas in the '60s before. So that's
12 something we're looking at, would that be cost-
13 effective to convert those units to natural gas.
14 We've also had the -- you know, we're looking at --
15 under potential renewable standards going forward,
16 does it make sense to convert a couple of these old
17 coal-fired units to biomass units, units that could
18 burn wood waste or agricultural crops.

19 So that's kind of a summary of our
20 retirements. And when you add all the retirements
21 together, you know, you're looking at approximately
22 2,100 megawatts of retirements of coal -- of our
23 coal and CT generation.

24 [Ref: PowerPoint Page 14]

25 As I described earlier about our screening

1 model and doing the refined modeling, this is kind
2 of the results of the modeling analysis when we're
3 forming our resource plan. In the short term,
4 basically our short-term resource plan is really
5 dominated by the recessionary impacts. We did --
6 we have multiple changes to our resource plan from
7 the 2008 plan, and several of them I've listed
8 below, as we had a placeholder purchased-power
9 agreement in our 2008 IRP; in 2011 we were able to
10 eliminate that placeholder purchased-power
11 agreement. We also, in our 2008 IRP, we were going
12 to phase in our -- from a combustion turbine to a
13 combined cycle at Buck Steam Station, and we
14 eliminated the phase-in. We really didn't need
15 that capacity in 2011 like we previously planned.
16 At Dan River we delayed the Dan River project by
17 approximately six months from the spring of 2012 to
18 the fall of 2012, to be operational for 2013. And
19 we also, in the -- from a combustion turbine, we
20 had identified a need for additional combustion
21 turbine generation in the '08 IRP in 2014, and that
22 was moved out to 2016. So when we get the load
23 forecasting graph, that graph -- that gap that we
24 showed before, these are the types of things that
25 we changed to address it in the 2009 IRP.

1 But, just wanted to reiterate that we adjusted
2 the timing of our combined-cycles. Longer term, we
3 still have a need for Cliffside 6, Buck combined
4 cycle, and Dan River combined cycle.

5 From a long-term perspective, from a planning
6 perspective, it's really concentrated on the
7 impacts of carbon, going forward. And what we
8 found is when we had multiple portfolios, is, a
9 nuclear portfolio -- it can be one unit or two
10 units -- in the 2018-to-'23 timeframe, were more
11 cost-effective than other portfolios without
12 nuclear, over a wide range of sensitivities. And
13 when I say other portfolios, that was mainly
14 natural gas -- meeting our base-load needs long
15 term with new natural-gas, combined-cycle
16 generation.

17 We varied fuel prices. We varied natural gas
18 prices minus 40 percent variances in one place. We
19 really sometimes pressed the sensitivities very
20 hard. And even in every sensitivity the nuclear
21 portfolio was most -- more cost-effective for our
22 customers.

23 We varied nuclear capital cost. We included
24 with and without a favorable nuclear financing.
25 That's basically your loan guarantees. We looked

1 at it with and without loan guarantees. We varied
2 our load within a 95 percent confidence level. We
3 varied our CO₂ prices. And we also included the --
4 as Dick alluded to earlier -- we said, "What if
5 we're able to achieve our high energy-efficiency
6 target? What impact would that have on this?" And
7 in every case, the nuclear portfolio was the
8 selected portfolio.

9 [Ref: PowerPoint Page 15]

10 Just a summary of all the resources that we're
11 adding in the 2009 IRP, I'll kind of go through
12 them. I'm going to work from the bottom up, so if
13 you want to try to follow this slide, you can
14 follow along. We'll start at the bottom, and that
15 is our nuclear portfolio. As you can see, we have
16 our existing nuclear generation, and actually
17 there's an uptick -- you can't really tell on this
18 slide -- in the 2013-to-2016 timeframe of a couple
19 hundred megawatts. That would be representative of
20 our nuclear uprates. And then you can look out in
21 the 2021, it includes one of the Lee nuclear units,
22 and in 2023 it includes the second Lee nuclear
23 unit.

24 Moving up to the yellow bars, that is our
25 coal-fired generation. Hopefully, you can tell

1 with these bars that they start decreasing in the
2 -- well, it increases in 2012; that's the addition
3 of Cliffside Unit 6. But then it decreases from
4 there for a period of time, and that represents the
5 retirements that I just summarized previously.

6 The next bar up is the existing natural gas
7 turbines that we have. The existing -- actually,
8 you can -- I think you can tell, it actually
9 decreases as we're looking at retirement of the
10 old-fleet combustion turbines in 2012, but
11 basically that remains flat.

12 The next bar up is the pink bar; that is the
13 Buck and Dan River combined-cycle facilities that
14 will be both operational by 2013. You'll see that
15 through time.

16 The green bar is new gas generation, and
17 that's basically unidentified combustion turbine
18 projects, going forward. We model these as
19 combustion turbine projects, but really they are a
20 placeholder. That's kind of our -- how do we plan
21 for flexibility? These are -- CTs can be
22 implemented in a relatively short period of time
23 and, you know, if we are achieving more energy
24 efficiency or we're achieving less, or more
25 renewables or less, or if the load forecast

1 changes, a lot of our long-term planning of how
2 we're able to change these is with the addition or
3 subtraction of these combustion turbine resources.

4 Move up the line and the blue line is our
5 existing hydro fleet. There are a few small
6 additions due to runner upgrades, but basically it
7 remains unchanged long term.

8 The light green bar is our demand-side
9 management resources. That is our -- that includes
10 the impacts of our Save-a-Watt program that Dick
11 highlighted earlier.

12 And then below that is a dark green area, and
13 that is our renewable resources.

14 And as you can tell, the line at the top, that
15 is with a 17 percent planning reserve margin. It
16 shows that when we add new, significant base-load
17 generation, we might be a little bit above the
18 line, but it comes down over the next couple of
19 years, and then when we add, you know, new base-
20 load nuclear generation, it goes above the line,
21 but over the next couple of years it comes down to
22 where we plan to that 17 percent reserve margin.

23 [Ref: PowerPoint Page 16]

24 And in summary, I will end with the statement
25 that we made earlier, the very first slide, is

1 flexibility is the key going forward. I hope you
2 can tell, you know, with all of the future load
3 forecasts, the potential changes, energy
4 efficiency, renewables, retirement, fuel price
5 volatility, it's an uncertain future, and you
6 really need a balanced and flexible plan going
7 forward. But I want to emphasize, long term, it's
8 our belief that we're looking at a carbon-
9 constrained future. If -- we were actually more
10 certain a year ago that we thought we would have
11 carbon legislation today, and so -- and that was
12 the basis of our 2009 resource plan, but -- and
13 today, we don't know exactly what will be proposed
14 from a legislative standpoint. But if legislation
15 is not proposed, the EPA has a -- they have a
16 mandate basically to regulate carbon, if it's not
17 legislated. And hopefully I made the point on the
18 environmental slide, if you are a planner, that is
19 a planner's worst nightmare if CO₂ is regulated
20 instead of legislated. It's just a -- you will
21 never know what bogey you'll be planning to next.
22 You'll have -- they'll propose regulations, they'll
23 finalize regulations, you will plan to those
24 regulations, and five years later they'll change
25 those regulations. So it's -- that's -- as a

1 planner, that is a -- that will be a very
2 challenging situation going forward, if it's
3 regulated.

4 I like this next chart down. And basically I
5 think it makes several points. First of all,
6 remember that -- our belief that we are going to be
7 in a carbon-constrained future. And so the top
8 blue line is if we meet our future needs with
9 natural gas. Also included in that top blue line
10 is renewables, energy efficiency, coal retirements,
11 if we're meeting our future energy needs with
12 natural gas. And as you can tell, our carbon
13 footprint never goes down. It always increases.
14 Even if you put in our high case, it's still
15 increasing but just not to that degree. And the
16 green line, as you see, that's the addition of Lee
17 Unit 1 and Unit 2, and if you're ever going to
18 reduce your carbon footprint, it's got to include
19 nuclear, long term. And as you can see, the major
20 reductions of approximately 10 million tons, with
21 the addition of the two nuclear units.

22 [Ref: PowerPoint Page 17]

23 That's -- you know, that's the summary of our
24 2009 IRP. We welcome any questions. I do have a
25 couple of slides in the appendix with regards to

1 our transmission planning efforts. If you would
2 like to go over those, we certainly can. But we
3 welcome any comments to myself or anybody on the
4 panel today.

5 **CHAIRMAN FLEMING:** Thank you. That's been
6 very informative. Why don't we open it up to
7 Commissioner questions at this time.

8 **COMMISSIONER HAMILTON:** Madam Chair.

9 **CHAIRMAN FLEMING:** Yes, Commissioner Hamilton.

10 **COMMISSIONER HAMILTON:** I've got a few. I've
11 enjoyed the presentation. As most of you probably
12 know, we just -- excuse me [indicating] -- we just
13 returned from our NARUC committee meetings in
14 Washington, and many of the things that were
15 pointed out to us there, we have heard again from
16 Duke today.

17 I realize that in your information -- I've got
18 a couple or three questions that I had picked up --
19 that you state that Duke's generation mix is
20 designed to provide energy at the lowest reasonable
21 cost to meet the company's obligation to serve
22 customers, and then 2008, Duke's nuclear and coal-
23 fired generation met 99.6 percent of the company's
24 generation requirements. And as we've discussed
25 today, you talk about the environmental concerns

1 that seem to be the engine that we're talking about
2 right now. Many -- several of the speakers that we
3 had at our Gas Committee contend that probably
4 politics are in front of the science. And that's a
5 sad thing, and it's probably a true thing, and I'm
6 not going to ask you to comment on that. You
7 probably would prefer not to. But what do you
8 think the environmental impact is going to have on
9 the consumer, as far as the price structure? I
10 know you pointed out that there are undetermined
11 things that are in front of you, and the difficulty
12 you have with planning. And I don't know how you
13 can go about doing it, as uncertain as things are
14 in today's world. But how do you accomplish that?

15 **MR. McMURRY:** Well, I think from the -- from
16 the environmental risks that I outlined -- am I
17 still -- everybody can hear? Yeah? -- that I
18 outlined before, I think we're well positioned.
19 We're showing retirement of our unscrubbed coal.
20 So that generation is being made up with gas,
21 nuclear, all of the above -- you know, all the
22 supply- and demand-side resources. So we're
23 already planning for that, so that eliminates a lot
24 of that risk. Our remaining coal units, if we want
25 to highlight coal, all of the remaining coal units

1 will have advanced SO₂ controls, scrubbers, and NO_x
2 controls. So I think we are positioned well from a
3 NO_x and SO₂ perspective. From a waste perspective,
4 all of those scrubbed units currently are designed
5 to handle their ash, the fly ash, in a dry manner.
6 In other words, it doesn't have to be sluiced to
7 the ash pond, so I think that minimizes the risk
8 there. So, I'm not saying that environmental is
9 not going to cost us going forward, but I think our
10 coal fleet, with the retirements we have planned,
11 is well positioned to meet those needs. Does that
12 -- does that help?

13 **COMMISSIONER HAMILTON:** Yeah, I think we're on
14 the same -- in other words, you think you're kind
15 of ahead of the curve as far as what might happen.

16 **MR. McMURRY:** I hope so.

17 **COMMISSIONER HAMILTON:** Okay, well, I think
18 all the ones we had before us had the same feeling
19 you do, it's a struggle and it's a lot of
20 uncertainty that we don't know, and we really don't
21 know all the true science, and we hope we do.

22 On your natural gas, on your prices, when
23 you're planning that for tomorrow and for the mid-
24 term and for the long term that we're looking out
25 20 years, what do you think about the prices of

1 natural gas and how it will be -- from the Gas
2 Committee it appeared that most of the people we
3 had, that this is going to be the fuel right now
4 for the next 20 years, until probably nuclear can
5 come on-board to take over.

6 **MR. McMURRY:** Our fundamental gas price is
7 updated every year, and when it was updated in the
8 spring of 2009 it was a much higher level than some
9 of the view of today.

10 **COMMISSIONER HAMILTON:** Yeah.

11 **MR. McMURRY:** And about mid-last-year before
12 we submitted our IRP, they really came back and
13 said, "We would really feel more comfortable if you
14 extended your range of natural gas prices, of --
15 instead of a plus-or-minus 25 percent, would you
16 extend it to plus 25 percent, minus 40 percent?"
17 And with the minus 40 percent, I mean, the point
18 that I tried to make, we ran that sensitivity
19 against our nuclear portfolio, and nuclear was
20 still selected, but that is -- you know, we're
21 beginning to get snippets of gas prices. We don't
22 have a new fundamental gas price, but we are
23 hearing the same thing that you just heard, that
24 the minus 40 percent covers kind of where we think
25 gas prices might be going, and so I'm sure you'll

1 be updated in 2010, but that is really -- we think
2 the sensitivity range that we have will cover the
3 range of the gas prices of what we're looking at
4 going forward.

5 **COMMISSIONER HAMILTON:** We had some experts
6 that said that they thought the production of shale
7 gas would reduce to a great extent some of the
8 volatility in the price of gas, and I don't know if
9 you agree with that or not. I know hydraulic
10 fracturing has been going on for a long, long time
11 without any problem, but all of a sudden it's
12 having some environmental concerns by a number of
13 people, and we just had a panel on it. And EPA
14 seemed to feel like the regulation that was being
15 performed by the states where hydraulic fracturing
16 was occurring was sufficient and had done an
17 excellent job, but then when I got home I got an e-
18 mail that I think the House Energy Committee now is
19 starting some questions on hydraulic fracturing.
20 So that's more uncertainty --

21 **MR. McMURRY:** Right.

22 **COMMISSIONER HAMILTON:** -- as we talked about.
23 And coal prices, do you think they're going to be
24 stable? I know we've seen, because of the export
25 of so much coal, that the prices have peaked very

1 high.

2 MR. McMURRY: When it peaked a couple of years
3 ago, when it went up to that \$150 a ton, that was a
4 lot of international pressure. I mean, that was --
5 they had issues in China, the coldest winter on
6 record; they had issues in Australia; they had --
7 so there was really a worldwide shortage of coal
8 that I think was the main driver for that run-up in
9 coal prices. Looking forward, I mean, coal has its
10 challenges looking forward, from a mining
11 perspective -- I'm sure you've heard of some of the
12 challenges they are having there. But our
13 fundamental forecast, with all the coal retirements
14 that have been announced -- I mean, we're not the
15 only ones announcing retirement of unscrubbed coal
16 -- is really taking some of the pressure off the
17 coal mines, to where we think there will still be
18 adequate coal for our coal units going forward. So
19 I'm certainly not a fuel forecaster or could
20 predict volatility in the coal market or gas, but,
21 you know, our fundamentals group is thinking that
22 coal prices might actually -- even with the
23 pressures they have from a mining perspective --
24 might come down, just from a demand standpoint.

25 COMMISSIONER HAMILTON: Well, we --

1 **MR. McMURRY:** Uh --

2 **COMMISSIONER HAMILTON:** Excuse me. We didn't
3 have any speaker that thought coal should not be a
4 part of the mix.

5 **MR. McMURRY:** Right.

6 **COMMISSIONER HAMILTON:** It's necessary that it
7 continues to be a part.

8 **MR. McMURRY:** Right. And from a gas
9 perspective, we heard the same, shale gas. And
10 really I think the environmental concerns might
11 cost a little bit more, but they will be addressed.
12 But to think a major shift of utility usage of coal
13 -- you know, all this retired coal, if that's all
14 replaced with natural gas going forward, to think
15 that that's not going to be a volatile market,
16 based on past history, I think that would be a
17 difficult statement to make.

18 **COMMISSIONER HAMILTON:** Okay. All right.
19 Thank you, sir, very much, for your input.

20 **CHAIRMAN FLEMING:** Commissioner Howard.

21 **VICE CHAIRMAN HOWARD:** I've got notes and I'm
22 going all over the place, and that's the danger of
23 ADHD, I can do that.

24 [Laughter]

25 But let me go back to -- I guess I want to go

1 back to your slides on your coal-fired units and
2 your slides where you had all your units.

3 **MR. McMURRY:** [Indicating.]

4 **VICE CHAIRMAN HOWARD:** I don't think -- well,
5 I've got a problem for that slide, too, if you want
6 to go back to it. That was the slide I was talking
7 about.

8 [Ref: PowerPoint Page 13]

9 Could you go over the plants you're planning
10 on retiring in those again?

11 **MR. McMURRY:** Absolutely. Let's see. They
12 told me to use a pointer -- I asked for one and I
13 didn't use it initially, so -- I'll start from the
14 top and go down.

15 **VICE CHAIRMAN HOWARD:** Okay, thank you.

16 **MR. McMURRY:** Dan River, that is three units,
17 three coal-fired units, with the red dots.

18 **VICE CHAIRMAN HOWARD:** Right.

19 **MR. McMURRY:** Those are being retired,
20 associated with the Cliffside 6 --

21 **VICE CHAIRMAN HOWARD:** Coming on-line?

22 **MR. McMURRY:** -- coming on-line. Also, it had
23 three old-fleet CTs, shown in the yellow dots. And
24 those are also being retired in 2012. As you come
25 down the line, with the big circle, Buck Steam

1 Station, there are four coal-fired units there.
2 Two of the units were committed -- Buck 3 and 4
3 were committed, associated with Cliffside 6; and
4 Buck 5 and 6 were some of the remaining unscrubbed
5 coal that we were going forward with. So those
6 four red dots will be retired, and they also had
7 three old-fleet CTs at that facility that will also
8 be retired in 2012.

9 The next major circle down is Riverbend Steam
10 Station. It has four coal-fired units, totaling
11 450 megawatts. Those were committed to be retired
12 as a part of the Cliffside 6 -- bringing it on-
13 line. And it also had four old-fleet combustion
14 turbines there that will be retired.

15 You move over to the left and you look at
16 Cliffside Steam Station. They had four old coal
17 units of approximately 200 megawatts that will be
18 retired, associated with Cliffside -- our new
19 Cliffside Unit 6. And then as we move directly
20 down, at Buzzards Roost Combustion Turbine Station,
21 there's a group of old-fleet combustion turbines
22 that will be retired at that facility in 2012.

23 And at Lee Steam Station, that's three units
24 totaling 370 megawatts of coal-fired generation,
25 and with that we're planning on retiring. But I

1 did mention at Lee, given that they were originally
2 designed to burn natural gas, we are looking
3 strongly at that option to convert those units to
4 natural gas, you know, from anything else, from a
5 capacity standpoint. If they could -- historically
6 they could burn natural gas, that might be economic
7 to do going long term. Is that helpful?

8 **VICE CHAIRMAN HOWARD:** Right, I just wanted to
9 review it again. You look like you're losing an
10 awful lot of generation capacity.

11 **COMMISSIONER MITCHELL:** Yeah.

12 **VICE CHAIRMAN HOWARD:** And I don't see where
13 it's being picked up.

14 **MR. McMURRY:** Well, that's -- I mean -- let's
15 see.

16 [Ref: PowerPoint Page 15]

17 **VICE CHAIRMAN HOWARD:** I guess my question
18 goes back to, what impact did North Carolina's
19 decision to cut you back from two units to one unit
20 have on your portfolio?

21 **MR. McMURRY:** I mean, one major thing with all
22 of this additional retirement of generation, the
23 recessionary impact and how we're accounting for it
24 in our load forecast is making up a portion of
25 that.

1 **VICE CHAIRMAN HOWARD:** Okay.

2 **MR. McMURRY:** I mean, so that's one portion of
3 it. Longer term, those -- the impacts of lower
4 load short term really is having one impact. As
5 you look at the reserve margin, the black line at
6 the top, where we're making up a lot of this
7 generation is with Cliffside 6. I mean, a lot of
8 those retirements were associated with Cliffside 6,
9 and we've been planning for those retirements for
10 several years now. The additional retirements of
11 the old-fleet CTs, we had always planned to retire
12 those units; we've just accelerated those
13 retirements due to the recessionary impacts.

14 Now, the new unscrubbed coal that we never
15 have shown retirements before, that is basically
16 being made up from the period of '15 to '21, with
17 additional combustion turbines, but then when Lee
18 Nuclear comes on-line in the 2021 timeframe, then
19 that is a large portion of that being made by Lee.
20 I don't --

21 **VICE CHAIRMAN HOWARD:** You answered the
22 question. I guess my question on that slide was,
23 your amount of renewables indicated on that graph,
24 which was the dark green near the top --

25 **MR. McMURRY:** Right.

1 **VICE CHAIRMAN HOWARD:** -- that doesn't look
2 like close to the percentage that you would need to
3 match the North Carolina renewable portfolio
4 standards, unless you're including energy
5 efficiency in there.

6 **MR. McMURRY:** I can address that. This is
7 contribution to peak, so -- and the renewable
8 energy portfolio standard in North Carolina is an
9 energy-based standard. So this green bar has some,
10 like, wind energy in it, for example.

11 **VICE CHAIRMAN HOWARD:** Okay.

12 **MR. McMURRY:** The contribution to peak of 100
13 megawatts of wind is 15 megawatts; it's about --
14 we're only counting on 15 megawatts being available
15 during our peak-need time. But yet the wind is
16 blowing and we're generating electricity, and we
17 have wind load profiles to try to estimate what our
18 annual energy need would be. But to give you an
19 example, the light green bar is only -- let me turn
20 to my slides. I have some notes in there, so I can
21 get my numbers right. That dark green bar is 460
22 megawatts of renewable energy generation
23 contribution to peak, but if you look at installed
24 nameplate capacity, that totals more than 1,700
25 megawatts in nameplate capacity.

1 **VICE CHAIRMAN HOWARD:** Okay.

2 **MR. McMURRY:** So there's a lot more nameplate
3 capacity than what's being shown on this --

4 **VICE CHAIRMAN HOWARD:** Showing on --

5 **MR. McMURRY:** -- graph.

6 **VICE CHAIRMAN HOWARD:** -- the graph. All
7 right. Dry fly ash. You mentioned your sale of
8 fly ash, and particularly the use of gypsum. Do
9 your engineers agree with EPA, or the environmental
10 engineers, or environmental commission, that that
11 is hazardous? I mean, do they have a different
12 opinion? Or do they just say, "Okay, then that is
13 hazardous and we've got to do away with it," or
14 have they still got some doubt about it, and how do
15 they challenge that ruling?

16 **MR. McMURRY:** First of all, fly ash has never
17 been designated as hazardous. It's been reviewed
18 multiple times throughout -- I'm sorry, I might be
19 getting on a soap stand here; you've got to pardon
20 me -- on this issue.

21 [Laughter]

22 But it's never been designated as hazardous,
23 and certainly, we don't agree that we've been
24 putting hazardous waste into making concrete. So,
25 absolutely not. Our view is that fly ash is not

1 hazardous.

2 You know, in every ruling, up until the TVA
3 dam break, of a fly ash basin -- which had nothing
4 to do with, you know, the hazardous -- it was more
5 about dam stability -- had this become an issue
6 that fly ash could be hazardous. And so, next
7 thing you know, rather than a dam stability
8 resource group to make sure that all of our dams
9 are safe around all of our sites -- which, all of
10 Duke's has been inspected and has been deemed safe
11 -- they say that fly ash is a hazardous waste. And
12 that's -- there again, that is EPA regulating
13 something, I think -- not to use your quote, but
14 getting ahead of the science, I think that's
15 definitely a case that has happened in the use of
16 combustion coal byproducts.

17 **COMMISSIONER HAMILTON:** I think Commissioner
18 Howard wants to know if he needs to fish, still.

19 **VICE CHAIRMAN HOWARD:** Since Commissioner
20 Hamilton said something, I guess I've got to ask
21 equal time with Commissioner Hamilton on hydraulic
22 fracturing --

23 [Laughter]

24 -- but I'll do that in another forum. Coal
25 transportation. In previous fuel cases and others,

1 transportation of coal has been a very volatile
2 issue. Is it still the volatility, or has that
3 ceased since they had some congressional action or
4 some -- I'll say congressional threats or whatever
5 the case may be. Is transportation still a big
6 item in the cost of coal?

7 **MR. McMURRY:** Well, absolutely, transportation
8 is a big item in the cost of coal. I'm not really
9 in a position to answer, you know, from a
10 regulatory standpoint, where that stands. But from
11 the fundamental view, I can speak to it to some
12 degree as, with all these coal retirements
13 nationwide, that takes pressure off coal usage,
14 which also takes pressure off the rail. So from
15 that standpoint, from a fundamental perspective, I
16 think that they should be more stable than they
17 have been in the past, just because there's less
18 demand. You know, the more demand you have on a
19 resource, the more volatile it's going to be. But
20 from a regulatory standpoint, I'm really not in a
21 position to answer that.

22 **VICE CHAIRMAN HOWARD:** Well, I bet you don't
23 answer this one either.

24 [Laughter]

25 My next one is, with the carbon legislation,

1 you thought something would be on-board right now
2 and been moving faster. Does that reflect your
3 CEO's opinion on cap-and-trade? He was pretty
4 vocal about cap-and-trade. You want to answer
5 that, or you want to just move on? I'll move on.

6 [Laughter]

7 **MR. ELLERBE:** Does Fifth Amendment apply here?

8 **MR. McMURRY:** You know, I still think it's our
9 company's position that we support a cap-and-trade
10 legislation. I think I've made it very clear about
11 the uncertainty that a regulatory environment would
12 bring. I should restate that: We support a cap-
13 and-trade legislation with a proper amount of
14 allocation of allowances, but --

15 **VICE CHAIRMAN HOWARD:** Thank you.

16 **MR. McMURRY:** And hopefully, that's consistent
17 with our CEO.

18 [Laughter]

19 **VICE CHAIRMAN HOWARD:** Thank you, very much.
20 You're very helpful.

21 **CHAIRMAN FLEMING:** Yes, Commissioner Wright.

22 **COMMISSIONER WRIGHT:** Good afternoon. Let me
23 be the first to tell you good afternoon. The slide
24 before this showing where the retirements were
25 at --

1 **MR. McMURRY:** Hold on, I'm trying to get
2 there.

3 [Ref: PowerPoint Page 13]

4 **COMMISSIONER WRIGHT:** That one, right there.
5 The closing of these -- or, retirements of these
6 plants, what is the, I guess, impact on the
7 communities where these planned closures are going
8 to take place? And I guess, was that taken into
9 consideration during this whole process, too?

10 **MR. McMURRY:** I mean, the answer is yes. I
11 mean, like Dan River Station, where we -- at the
12 top bubble, that's the location of our new
13 combined-cycle facility, so where we are retiring
14 350 megawatts, we're adding 620 megawatts, which
15 helps the tax base of that community. There is
16 still some economic impact to that community,
17 because it takes more people to operate a coal
18 plant than it does a gas plant, but -- the same
19 thing at the Buck Steam Station; that's another
20 location of a combined-cycle facility. We're not
21 saying that we will never put anything at Riverbend
22 again, but right now there's nothing been named
23 there. Cliffside facility, certainly we're
24 building an 825-megawatt unit there. You know, and
25 Lee Steam Station, you know, we have two turbines

1 there that certainly won't be retired. Long term,
2 Lee is one of our -- as we were looking at all
3 those additional gas resources that we're adding in
4 addition to nuclear, Lee would be a prime site for
5 additional generation, just with proximity to the
6 gas line and potential need for transmission in
7 that area.

8 So it is certainly looked at. And we -- I
9 mean, from a planning standpoint, you have water at
10 these facilities, you have transmission at these
11 facilities. They're just logical places to put new
12 generation at, going forward, that hopefully will
13 have a minimal impact to the local economy.

14 **COMMISSIONER WRIGHT:** Thank you. Stay on the
15 nuclear for a second. You're talking -- I guess in
16 here you're forecasting coming on sometime between
17 '18 and '23, I guess, am I right?

18 **MR. McMURRY:** We've looked at the range of on-
19 line dates and that's the range.

20 **COMMISSIONER WRIGHT:** The current fleet of
21 units, they've all been granted -- their licenses
22 have been extended?

23 **MR. McMURRY:** That's correct.

24 **COMMISSIONER WRIGHT:** Okay. And have all the
25 opportunities for power uprates been taken, or are

1 there more opportunities available, too?

2 **MR. McMURRY:** Included in that nuclear bar
3 that you couldn't see, we are looking at adding 200
4 megawatts of nuclear uprates in the '13-to-'16
5 timeframe. We've looked at those power uprates
6 over a period of time and for various reasons we
7 have not implemented, but with the carbon-
8 constrained future looking forward, they look more
9 favorable than ever.

10 **COMMISSIONER WRIGHT:** You said it was 20
11 percent? Is that what you said?

12 **MR. McMURRY:** No, 200 megawatts.

13 **COMMISSIONER WRIGHT:** 200 megawatts. I'm
14 sorry. All right.

15 **MR. McMURRY:** And that's skewed. It's really
16 higher than that, but that includes, you know, our
17 partial ownership at Catawba. And so there will be
18 more nuclear uprates, but that is Duke Energy's
19 portion of the nuclear uprates.

20 **COMMISSIONER WRIGHT:** You just mentioned --
21 that kind of led right into the next thing -- the
22 partnerships and things like that. The units that
23 you're looking at bringing on-line in the future,
24 are they -- is this going to be your kind of
25 AP1000-looking unit, or are you looking at

1 different types, maybe the new things that are out
2 there being talked about, the smaller modular
3 units? I guess, Mr. Lawrence, you could probably
4 answer that.

5 **MR. LAWRENCE:** The plan for the Lee -- can
6 everybody hear me? The plan for the Lee project is
7 to use the AP1000 certified design, yes.

8 **COMMISSIONER WRIGHT:** Okay. And then I guess
9 my last question for now could probably be answered
10 by any of y'all really, but it has to do with the
11 renewables and energy efficiency, I guess. Has
12 there been -- the backup generation for that, is
13 there -- I guess that's considered because the wind
14 is not always going to blow, and --

15 **MR. McMURRY:** That's considered when we --
16 when, like, for wind energy, we assume that 15
17 percent of its nameplate is contribution to peak,
18 so that's considered in the variability. Solar
19 energy, for example, is 50 percent of its nameplate
20 is to be available at our peak hour. So, yes, as
21 we look at each type of renewable resource, we look
22 at what the contribution -- you know, on average
23 what the contribution to peak would be.

24 **COMMISSIONER WRIGHT:** Right.

25 **MR. McMURRY:** They're still -- that's an

1 uncertainty. I mean, just for example, we've been
2 planning for the past couple of years a 15 percent,
3 on wind energy, for contribution to peak, and in
4 the MISO region in the Midwest, they just lowered
5 it from 15 percent to 8. So just to give you --
6 it's not a -- it will change in the future, the
7 assumptions we make today on these resources as we
8 learn more about them.

9 **COMMISSIONER WRIGHT:** Right, okay. Thank you.
10 Thank you, Madam Chairman.

11 **CHAIRMAN FLEMING:** Yes, Commissioner Mitchell.

12 **COMMISSIONER MITCHELL:** Just a follow-up
13 question to Commissioner Wright, I noticed you left
14 Buzzards Roost off. As far as telling me what
15 might ever be placed there, I guess that's no
16 consideration in that area?

17 **MR. McMURRY:** I won't say that we won't ever
18 put generation there, but right now --

19 **COMMISSIONER MITCHELL:** Well, I just noticed
20 you went down the whole chart.

21 **MR. McMURRY:** Right.

22 **COMMISSIONER MITCHELL:** And you sort of
23 skimmed over that.

24 **MR. McMURRY:** I may have. And I'm not saying
25 that the -- I mean, there's not only a load need

1 but you've got a transmission stability need.

2 **COMMISSIONER MITCHELL:** Right.

3 **MR. McMURRY:** And to think that nothing will
4 ever be located there is certainly premature. But
5 there's nothing at a firm siting at this point for
6 Buzzards Roost.

7 **COMMISSIONER MITCHELL:** Right, I understand.
8 I understand. With increasing pressures being
9 placed on all your competitors, as far as demand
10 rates are rising, do you see that as -- is that a
11 positive effect for Duke, the ability to recruit
12 industrial customers? Or not? Or would you
13 comment on that?

14 **MR. McMURRY:** I don't know that I understood
15 your question, sir.

16 **COMMISSIONER MITCHELL:** Well, I mean, I'm not
17 naming names, specifically. I'm just speaking in
18 general terms, any of your competitors that are now
19 supplying power to industrial customers. I guess
20 what I'm asking, do you think by maybe being a very
21 efficient company, that that might give you the
22 ability to recruit industrial customers?

23 **MR. McMURRY:** I mean, we certainly would hope
24 so. But -- you know, and hopefully we've shown on
25 the slides that we're putting mechanisms in place

1 to promote industrial development going forward.
2 This balanced portfolio I think will be competitive
3 with any of our competitors, going forward. And, I
4 mean, certainly we would support that.

5 **COMMISSIONER MITCHELL:** Right, right. And
6 changing the subject just a little bit, let's speak
7 about the -- on page 21 you were referring to your
8 co-fired biomass, at Duke's coal-fired generation
9 stations. I guess what my question there, what is
10 the status of Phase 2, the siting studies? You
11 mentioned some siting studies there.

12 **MS. NICHOLS:** On the slides or on the IRP?

13 **COMMISSIONER MITCHELL:** This was -- I saw it
14 in your documentation there on page 21 -- let's see
15 where.

16 **MS. NICHOLS:** We've got it.

17 **COMMISSIONER MITCHELL:** Yes, it's on page 21
18 there. Do you see? There was some reference to
19 biomass there and a Phase 2? I guess all my
20 question there is the status on that.

21 **MR. McMURRY:** You know, as part of the
22 renewable requirements in North Carolina, you know,
23 we stacked all the renewable resources up, and
24 certainly biomass, either co-firing with the wood-
25 waste products or converting one of our old,

1 retired units, it looks very competitive with other
2 renewable options, going forward. We've not filed
3 a preliminary CPCN for converting one of these
4 units. If it's done, it should be done within the
5 next year.

6 **COMMISSIONER MITCHELL:** Has there been any
7 experimental -- other than in your all's area -- on
8 biomass? Any updated status of any that are maybe
9 being considered?

10 **MR. McMURRY:** I know Southern Company -- the
11 unit escapes me. I don't know if anyone else knows
12 it -- is converting a unit, and they are under
13 construction, as we speak, in converting one of
14 their units to biomass. They had performed
15 multiple tests prior to conversion of this unit,
16 such as we have. You know, we've done tests at Lee
17 Steam Station and at Buck Steam Station of co-
18 firing to see what the impacts to the unit would
19 be, what size the material needs to be, and so --
20 and, you know, when we would convert a unit to burn
21 biomass, you know, that technology is very mature.
22 I mean, most any timber company or paper company,
23 they've been using wood waste for years in boilers
24 and burning wood waste, so I mean, that's a very
25 mature technology.

1 **COMMISSIONER MITCHELL:** Well, yes, I guess
2 that's the reason I asked it, particularly in the
3 areas -- I'm hearing that tossed around quite a bit
4 more, especially of wood products being used, to
5 use all the wood products. So I guess that's why I
6 wanted to know if there was any upgrade in any
7 studies on that.

8 **MR. McMURRY:** There's been multiple studies,
9 you know, that I'm aware of within our company over
10 the past year. One of the big concerns is, yes, we
11 can get wood supplied for some of these conversions
12 to -- you know, coal-fired units to wood waste, but
13 how sustainable is that wood supply? You know, are
14 you competing with your industry that you're trying
15 to serve? There's all sorts of questions around
16 fuel supply that we're working through right now.

17 **COMMISSIONER MITCHELL:** Sort of like corn?

18 [Laughter]

19 **MR. McMURRY:** Yes, that's correct.

20 **COMMISSIONER MITCHELL:** And my last and final
21 question, talking about the Cliffside unit plant,
22 the legal risks there, do you feel that as far as
23 environmental and legal risks, that in the future
24 that proceeding forward with that plant meets those
25 qualifications or -- can you just touch on that

1 briefly? I know, seemingly, when you talk about
2 all the units you are taking off and you keep
3 referring to Cliffside, that that is pretty much
4 going to make up all the difference. So I guess
5 what I'm asking you -- do you feel like the carbon
6 emissions and the things that you're facing in the
7 future, that that far outweighs moving forward with
8 that project?

9 **MR. McMURRY:** I'm careful to never say never
10 on a legal challenge or a regulatory challenge, but
11 so far in every case that we've had to justify the
12 need for Cliffside and its ability to meet
13 environmental requirements has been proven to be,
14 you know, good. And just longer term, I think it's
15 interesting to note that when we model carbon in
16 our models looking forward, and it is the best
17 controlled, most efficient coal plant we have on
18 the system, and it still runs in a carbon-
19 constrained future. So, I mean, it hasn't been
20 priced out of the market, is what I'm trying to
21 say.

22 **COMMISSIONER MITCHELL:** Right, right.

23 **MR. McMURRY:** You know, so all that together,
24 we still are firmly supporting Cliffside in our
25 resource planning.

1 **COMMISSIONER MITCHELL:** Thank you, very much.

2 **CHAIRMAN FLEMING:** Commissioner Whitfield.

3 **COMMISSIONER WHITFIELD:** Thank you, Madam

4 Chairman.

5 I think you had a little bit of exchange with
6 Commissioner Wright a little bit ago about nuclear,
7 and I wanted to follow up on that just a little
8 bit. I think you had your short-term plan and
9 long-term plan, and pretty much all the scenarios
10 in your long-term plan were leading to these units
11 in the 2018-to-2023 timeframe. And what my
12 question is to you is about the -- for new nuclear
13 generation, about the federal loan guarantees. We
14 all had a big announcement while we were in
15 Washington last week about Georgia receiving the
16 first. And of course there was also an
17 announcement about the additional monies being put
18 in the federal loan guarantee program for the new
19 nuclear. And I just wondered if you could touch on
20 what the impacts would be to the ratepayers for
21 your company, and any additional information you
22 might have, as it pertains to the federal loan
23 guarantees.

24 **MR. LAWRENCE:** Yeah, Commissioner, I can talk
25 about that.

1 **MR. McMURRY:** Yeah, go ahead.

2 **MR. LAWRENCE:** I can tell you about that. We
3 submitted our application under the initial
4 proposal, which of course had only the \$18.5
5 billion worth of funding, and we were not selected
6 as a finalist due to the limited funding and due to
7 the fact that our schedule was a little bit slower
8 than some of the others pursuing the AP1000
9 technology. We have kept our application up-to-
10 date and are continuing to update that on a
11 periodic basis, for the schedule that DOE set
12 forward, and are definitely looking at the
13 potential benefits of accessing that funding
14 source, assuming that the additional expansion is
15 passed, and that could provide additional financial
16 benefits to customers if we were able to finance
17 that source. But we don't view it as a must-have,
18 to proceed with the project.

19 **COMMISSIONER WHITFIELD:** Thank you. Thank
20 you, Madam Chairman.

21 **CHAIRMAN FLEMING:** Oh, is that --

22 **COMMISSIONER WHITFIELD:** That's all.

23 **CHAIRMAN FLEMING:** -- all? Are there any
24 other questions?

25 [No response]

1 Yes, Mr. Melchers.

2 **MR. MELCHERS:** Mr. McMurry, one question in
3 follow-up about the foibles of EPA regulation.
4 This week we've seen some signals from the EPA
5 chief about possible delays in implementation and
6 possibly even some weakening of the standards? Do
7 you see that as a game-changer?

8 **MR. McMURRY:** Can you tell me which regulation
9 they're looking at weakening, or --

10 **MR. MELCHERS:** In terms of the carbon
11 legislation going forward. They had proposed
12 certain thresholds for implementation, certain --
13 you know, the original proposed rule had talked
14 about a timeframe, and apparently we've got a
15 letter to Senator Rockefeller that was sent out
16 this week, answering some of the questions that he
17 had proposed. And it -- that just came out two
18 days ago, so it may be something that you were so
19 busy preparing for today that it hasn't crossed
20 your desk yet.

21 [Laughter]

22 And I'd understand that. But some have said
23 it signals, or it was intended to signal that EPA
24 is backing off a bit from its most stringent
25 proposals in regard to carbon, in recognition of

1 the economy, et cetera. And I was just curious if
2 you could comment on that today.

3 **MR. McMURRY:** I really haven't seen that. I
4 mean, I would like to state that, you know, our
5 resource plan is a very long plan, and to think
6 that if, in a carbon-constrained future, that if
7 your carbon footprint is still increasing, to think
8 that EPA won't act again and take the more
9 stringent case, I don't think would be very prudent
10 from a long-term planning perspective. But that's
11 my personal opinion. You know, my background is I
12 worked for 18 years with environmental strategy,
13 with Duke Energy, so with my involvement with the
14 EPA and the trust level --

15 [Laughter]

16 -- that something is going to stay stagnant,
17 or not stagnant, but constant, is just not going to
18 happen.

19 **MR. MELCHERS:** Thank you.

20 **COMMISSIONER WRIGHT:** Madam Chairman?

21 **CHAIRMAN FLEMING:** Yes, Commissioner Wright.

22 **COMMISSIONER WRIGHT:** One quick follow-up to
23 that. Based on your answer right there, originally
24 you had the load forecast for '08 and '09 without
25 carbon and then with carbon legislation?

1 **MR. McMURRY:** Right.

2 **COMMISSIONER WRIGHT:** And you showed that 2009
3 with carbon legislation going at a steeper rate,
4 after a certain time period here?

5 **MR. McMURRY:** Right.

6 **COMMISSIONER WRIGHT:** What if there weren't --
7 what if what Mr. Melchers just asked you happened?
8 Does that impact your load forecast?

9 **MR. McMURRY:** I'll let Dr. Stevie -- or Jim?

10 **MR. RIDDLE:** I can talk to that. To the
11 extent that our estimate of what the customer will
12 now pay, and without carbon legislation those
13 prices will be lower than with carbon legislation,
14 demand will increase.

15 **CHAIRMAN FLEMING:** Okay. Well, do you have
16 any more questions? No? Okay. I wanted to --
17 well, first of all, let me go back to what -- the
18 carbon legislation. At the energy forum in
19 Washington there was a panel of CEOs, and they were
20 all in agreement that something has got to be
21 determined soon, because they are at a point that
22 they have got to start making plans for new
23 generation, and that this is really -- and that if
24 something -- they're waiting on what the
25 legislation will be, but they are getting to the

1 point they're going to have to go ahead and just
2 kind of guess what it's going to be if something
3 doesn't happen soon. Are you finding Duke is in
4 that same quandary? Is that a legitimate
5 evaluation that you need more certainty in that
6 particular area to do your long-range planning?

7 **MR. McMURRY:** Absolutely. I mean, I agree
8 with that statement, and more certainty is
9 certainly needed. And I'm sure Jarred could
10 probably speak to this better than I, you know,
11 because a nuclear asset is a ten-year asset, and
12 we're having to make plans today to meet a future
13 need. And I don't know if you want to speak to
14 that anymore.

15 **MR. LAWRENCE:** All I would add to that is, of
16 course, the business case for nuclear, you know, in
17 Bobby's analysis, is based largely on the carbon
18 savings. In the graph he shows, he shows 30
19 percent impact from that two-unit plant that we
20 would propose to bring on-line. Without a way to
21 capture and monetize those savings in your
22 analysis, it's a little bit harder to justify the
23 investment there.

24 **CHAIRMAN FLEMING:** Talking about nuclear,
25 we've heard about a regional plan from Duke. What

1 is happening on that front? I don't believe I
2 heard you say anything about that today.

3 **MR. LAWRENCE:** Sure. And by the regional
4 plan, I assume you mean a --

5 **CHAIRMAN FLEMING:** A group of --

6 **MR. LAWRENCE:** -- a group of --

7 **CHAIRMAN FLEMING:** -- companies going in.

8 **MR. LAWRENCE:** Yes. We have -- it's a
9 function of my group to engage in discussions with
10 other utilities, load-serving entities, and others
11 who might be interested in co-developing one or
12 several nuclear plants. And while I can't speak to
13 the specifics of that for commercial sensitivity
14 reasons, we have seen a lot of interest both within
15 and outside of the Carolinas in that particular
16 platform, and are hopeful that something will
17 develop on that front.

18 **CHAIRMAN FLEMING:** Okay. And with this
19 uncertainty -- I mean, all we've heard from
20 financial markets for years is they want certainty.
21 Where is all this uncertainty playing with the
22 financial markets?

23 **MR. McMURRY:** I mean, I guess I'll ask for
24 clarification, what you mean by the impacts to the
25 financial market.

1 **CHAIRMAN FLEMING:** Well, they keep telling
2 Commissioners that they want certainty before they
3 can really provide the financial resources to the
4 companies.

5 **MR. McMURRY:** Okay.

6 **CHAIRMAN FLEMING:** It sounds like you have a
7 lot of uncertainty on your front, as well. And is
8 that impacting the financial markets' support of
9 the companies?

10 **MR. McMURRY:** I think Jarred could certainly
11 speak to that, in how we've looked at loan
12 guarantees and how important it is for certain
13 measures, but --

14 **MR. LAWRENCE:** Yes, obviously the access to --
15 when you're making a large investment, your credit
16 rating is important, and obviously kind of the
17 macroeconomic effects of the cost of that capital
18 are important, as well as the risk factors that a
19 rating agency might apply to you, given your
20 regulatory cost-recovery mechanisms. And so
21 obviously we are very sensitive to the direction
22 the interest rates might be going, as well as the
23 risk proposition that we would put forward in the
24 way that we would finance a major investment like a
25 nuclear plant.

1 **CHAIRMAN FLEMING:** I want to go talk -- get
2 into the transmission a little bit. Tell me a
3 little bit about Duke's involvement in the Eastern
4 Interconnection Planning --

5 **MR. McMURRY:** Certainly, we're --

6 **CHAIRMAN FLEMING:** I hope -- I assume you're
7 involved.

8 **MR. McMURRY:** Yes.

9 **CHAIRMAN FLEMING:** All of our utilities are
10 involved.

11 **MR. McMURRY:** Right. Certainly we're involved
12 with the Eastern Interconnect Planning
13 Collaborative. We're one of the 24 planning
14 authorities that makes up that committee. I mean,
15 I talk to our transmission planning folks as we're
16 developing the IRP, and we have representation.
17 That was just finalized, I think, in August or
18 September of 2009, so it's very much in the
19 planning stages. I think one of the
20 representatives was there in a meeting -- was it
21 last week, or this week -- in Tampa, with regards
22 to trying to see what the next step would be.

23 As they describe it, about the time we had the
24 Eastern Interconnect Planning Collaborative, you
25 know, DOE had this stimulus money that was also

1 there that kind of kicked off the planning
2 collaborative. And it looks like we are going to
3 be a part of the analytical arm to analyze a lot of
4 the variable energy resources' -- i.e., wind --
5 impact on our region. And according to our
6 transmission planners, and I think it will be
7 sometime in 2012 when all the studies are done to
8 see what exactly the path forward will be.

9 But certainly we have representation on the
10 Eastern Interconnect. We have representation on
11 the DOE effort also -- you know, that's kind of a
12 parallel path. And we also have representation on
13 various other transmission planning committees.

14 **CHAIRMAN FLEMING:** Okay. Well, what impact do
15 you think that will have on the generation
16 planning, transmission planning? You look
17 skeptical.

18 [Laughter]

19 **MR. McMURRY:** I don't know, it's --
20 transmission is not necessarily my strong suit. I
21 mean, I was on the conference call this week on the
22 NERC notice of intent on variable energy resources
23 -- and if I miss something here on the terminology
24 from a transmission perspective, someone please
25 correct me. But, you know, it's very much in the

1 planning stages. They -- what I've heard discussed
2 is in the Midwest where they've had significant
3 wind resources, that some examples are your coal
4 units at min. load, and all of a sudden you have
5 this wind resource that it didn't follow that nice
6 load profile that you were planning to, the coal
7 resources went down to minimum load at night and
8 then all of a sudden you had additional load
9 hitting your grid, and it takes these generation
10 sources off-line. Well, a coal unit doesn't crank
11 up in ten minutes like a combustion turbine. So
12 that's an example from a supply-side impact.

13 You also have impact from the instantaneous
14 need for power. You're sitting here and so you've
15 got your -- it's all integrated with your supply-
16 side resources, in that how quickly can your system
17 respond if this variable energy resource is
18 suddenly not there? So I know there's a lot of
19 transmission planning that goes into that. I don't
20 know how much more detailed I can go. I hope that
21 helped.

22 **CHAIRMAN FLEMING:** All right. Well, I wanted
23 ask about the energy efficiency. I guess, Mr.
24 Stevie, you're the one I need to address this to.
25 I think in the report, by 2029, you said the summer

1 load would be reduced by about 480-some-odd
2 megawatts and winter load by about 550-some-odd
3 megawatts. What impact will this have on your
4 generation plan?

5 **DR. STEVIE:** Well, I may have to refer this
6 back to Bobby, but --

7 **CHAIRMAN FLEMING:** Okay. Well, that's fine.

8 **DR. STEVIE:** -- what it does is it reduces the
9 level of the load, and so that would be reflected
10 in a reduced need for new generation that I think
11 was on that chart with the bars on it. There's a
12 light blue segment on that chart that showed how
13 that is contributing to meeting the required
14 reserves of the company.

15 **CHAIRMAN FLEMING:** Did you have anything to
16 add?

17 **MR. McMURRY:** Well, I mean, I could have
18 included -- it's in the IRP. I can reference the
19 page. But there's an energy chart just like this
20 is a capacity chart, and it shows a much bigger
21 impact to our total energy that will be produced
22 from our system. The main -- one of the main
23 things that happens with -- is it reduces the
24 capacity factor -- the more energy efficiency you
25 have, it will reduce the capacity factor of your

1 existing supply-side resources. So whatever is
2 next in line, the more energy efficiency you have,
3 the more it would offset some of our combined-cycle
4 generation or even your coal-fired generation. So
5 the higher the energy efficiency input is, the more
6 offsets you have on some of your existing
7 resources. Which sometimes is -- I mean, from a
8 carbon standpoint it's a very good thing. And
9 sometimes the capacity factor on some of these
10 units are, quite frankly, higher than what we want,
11 so something that kind of caps the capacity on
12 those supply-side resources is a good thing.

13 **MS. NICHOLS:** That's page 60 of the full IRP,
14 has both of these charts.

15 **CHAIRMAN FLEMING:** Okay. And on your
16 conservation and demand-side management -- the
17 charts I believe are page 49 and 50 -- you show the
18 base-case and high-case load impacts. Do you
19 anticipate that you are actually going to be within
20 those bounds for those projections? Could you talk
21 a little bit about that?

22 **DR. STEVIE:** I will say we are trying to. We
23 just have experience with the programs through a
24 little over six, seven, maybe eight months now, and
25 we are getting customer impacts, reductions in

1 load, as a result. It's not running, I think, as
2 strong as we originally had planned, and I think
3 that's a result of the economy in terms of the
4 available cash that consumers, businesses,
5 residential consumers have to invest in energy
6 efficiency. They have to come up with some capital
7 to implement these programs and take advantage of
8 the incentives that we offer for the programs.

9 So progress is being made. I think it's a
10 little bit slower right now, given the state of the
11 economy. But the intent here is, over time, to
12 meet the objectives that are laid out on page 49,
13 learn, change programs, improve them over time, and
14 if possible, try to hit what's in the high case.

15 **CHAIRMAN FLEMING:** Are you -- do you think
16 your educational program or outreach program is
17 adequate for the understanding on the consumers'
18 part?

19 **DR. STEVIE:** Well, I think so. One example is
20 the personalized energy report that's part of the
21 residential assessment program, and we have seen
22 great response to that. And part of that is
23 because it's something that consumers can do
24 without having to sit at home and wait for somebody
25 to show up at their house and to do an audit of the

1 house and give recommendations of things they could
2 do to reduce their energy consumption. Instead, it
3 can be done through the mail, and we can provide
4 them with detailed recommendations of things that
5 they should be doing. And we've seen some great
6 response with that.

7 So I think the education part of it is
8 working. And again, it's my point to just -- these
9 have been difficult times, and it's tougher to come
10 up with the cash to make the investments.

11 **CHAIRMAN FLEMING:** The reason I ask that, I
12 just -- you know, for South Carolina, they say that
13 one of the big challenges is, I think, 56 percent
14 of the general public is moderately to severely
15 illiterate, and so I just wondered if -- and I
16 don't know if -- hopefully that's not in the Duke
17 area.

18 [Laughter]

19 But I just wondered if you're kind of
20 modifying your educational process to kind of
21 target that consumer, as well.

22 **DR. STEVIE:** So far I don't think we've seen a
23 need to do that, but I will certainly pass along
24 the comment to the folks who are designing the
25 programs.

1 **CHAIRMAN FLEMING:** Well, I mean, that's just
2 information that I had read in an energy report --
3 energy efficiency report. Let me ask you, you also
4 had your energy efficiency gains staying the same
5 beyond 2021. Is that due to the fact that you just
6 can't forecast that far out, or do you think you
7 will have kind of reached the potential energy
8 efficiency?

9 **DR. STEVIE:** Well, by that point in time, we
10 think we've reached about somewhere in the
11 neighborhood of 5, 6, 7 percent of the load that is
12 reduced through these programs. The high case
13 takes us up to -- I think, if I remember correctly,
14 it's about 18 percent. 17, 18 percent, somewhere
15 in that neighborhood. And what we're looking at
16 with the high case is the market potential study
17 that was prepared back in 2007, that kind of gauges
18 for us what is the total economic potential for
19 energy efficiency. So we see that as kind of an
20 upper band as far as what's cost-effective, that
21 could be achieved. For the base case, it's really
22 a matter of how much energy efficiency -- you know,
23 we think we're probably not going to get 100
24 percent of economic potential, and so this is a way
25 for us to gauge let's go out and plan for this

1 amount, and if need be down the road, if we learn
2 more about customer acceptance of the programs, we
3 may be able to come up with additional impacts and
4 new types of programs that could push those numbers
5 up.

6 **CHAIRMAN FLEMING:** Okay, thank you. Are there
7 any more questions?

8 [No response]

9 All right. If not, do you all have anything
10 to add?

11 **MS. NICHOLS:** In closing, I would just say we
12 greatly appreciate your time and attention for us
13 to be here today. Oh --

14 **CHAIRMAN FLEMING:** Could you go to the mike?

15 **MS. NICHOLS:** -- yes [indicating]. We greatly
16 appreciate your time and attention for us to be
17 here today to talk about this important topic. To
18 touch on just a couple of the Commissioners'
19 questions, I did want to mention that we will be
20 sure when we file our fuel case this summer, that
21 we will address coal transportation -- I mean --
22 yes, coal transportation and volatility in that.
23 We'll be sure to address that for you there.

24 In terms of energy efficiency, I would also
25 note this afternoon I think you have a couple of

1 our new programs on your -- and changes to existing
2 programs -- on your agenda. So you can see that we
3 are taking those steps to bring forth new programs,
4 to see what's working and to make changes. One of
5 those programs is Home Energy Comparison Report
6 pilot, which goes to your question about education,
7 doing more around showing people exactly what is
8 causing them to have the usage that they have. And
9 we look forward to you having the opportunity to
10 address those in your meeting this afternoon.

11 And then lastly with respect to your question
12 about Wall Street and regulatory certainty, I do
13 want to say that we definitely appreciate the
14 regulatory certainty that we recently got from this
15 Commission in connection with our recent rate case
16 and the energy efficiency portion of that case, as
17 well, and do feel that Wall Street does appreciate
18 that. Perhaps they would like to see the same
19 level of certainty coming out of EPA -- and they
20 may not be seeing that, but they know they have to
21 look to us to try to work with those risks. So we
22 appreciate what this Commission has done to
23 contribute to regulatory certainty. Thank you,
24 very much.

25 **CHAIRMAN FLEMING:** Well, I think South

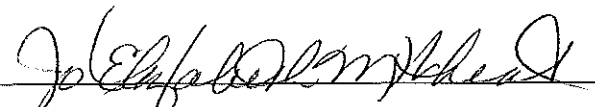
1 Carolina has very good investor-owned utilities,
2 and we can be very proud of that. So that makes
3 our job easier, I think, as well, on those fronts.
4 This has been very informative today, and I thank
5 you. Very stimulating. Thank you, very much, for
6 an excellent presentation. This hearing is now
7 adjourned.

8 [WHEREUPON, at 12:40 p.m., the
9 proceedings in the above-entitled matter
10 were adjourned.]

C E R T I F I C A T E

I, Jo Elizabeth M. Wheat, CVR-CM-GNSC, do hereby certify that the foregoing is, to the best of my skill and ability, a true and correct transcript of all the proceedings had in an allowable ex parte briefing held in the above-captioned matter before the Public Service Commission of South Carolina.

Given under my hand, this the 25th day of February, 2010.


Jo Elizabeth M. Wheat, CVR-CM-GNSC

ATTEST:



Jocelyn G. Boyd,
INTERIM CHIEF CLERK/ADMINISTRATOR